

DISCOVERY OF THE T. W. HARRIS COLLECTION AT HARVARD
UNIVERSITY AND DESIGNATION OF A LECTOTYPE FOR
PODOSESIA SYRINGAE HARRIS (LEPIDOPTERA: SESIIDAE)¹

FOSTER FORBES PURRINGTON AND DAVID G. NIELSEN

Department of Entomology, Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, Ohio 44691.

Abstract.—T. W. Harris' insect collection, the oldest synoptic collection in North America, has been located in the Museum of Comparative Zoology at Harvard University. It contains the types of more than 200 species of Coleoptera and Lepidoptera described by Harris, Thomas Say, and others. Among the clearwing moths (Sesiidae) is the syntypic series of *Podosesia syringae* (Harris) for which we designate here a lectotype.

Thaddeus William Harris' insect collection was moved across the Charles River in 1941 from Boston's New England Museum of Natural History to Harvard University's Museum of Comparative Zoology (MCZ) in Cambridge. The arrival at the MCZ of this important synoptic collection was noted by Philip J. Darlington, Jr. (1941), Fall Curator of Coleoptera at Harvard at that time. It is the oldest synoptic collection of insects in North America, containing the types of more than 200 species described by Harris, Thomas Say, and others.

The New England Museum of Natural History changed its name in 1949 to the Museum of Science. Although it transferred the Harris collection to Harvard, the Museum retained 20 volumes of Harris' manuscripts dealing with the insect collection, insects of Massachusetts, indexes, abstracts, lectures, and other relevant writings, all of which are presently housed at the Museum of Science library (C. Fruci, pers. comm.).

In the years following the transfer, the Harris collection slipped from the sight of at least some specialists who sought it out, and eventually it came to be regarded as lost or destroyed (Duckworth and Eichlin, 1973, 1977, 1978). In February 1986, one of us (F.F.P.) visited Harvard University to examine the clearwing moth holdings and was promptly shown the Harris collection by MCZ Collections Manager Scott R. Shaw.

Our interest in the Harris collection centers on the type material of 11 clearwing moth species that Harris described from collections he made in eastern United States, primarily New England (Table 1). These specimens bear red MCZ type labels and other labels, some probably in Harris' hand. Some series of syntypes include pupal exuviae and even cocoons; many specimens are in poor condition. Ten of these species were originally described in Harris' Descriptive Catalogue (1839); *Aegeria polistiformis* was described elsewhere (Harris, 1854). Because most of these clearwings are economically important and have been studied extensively, application of most names has not been in doubt. Nevertheless, since we described *Podosesia aureocincta* Purrington and Nielsen as a cryptic sibling species of

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Table 1. List of Sesiidae types described by T. W. Harris held at the MCZ in the Harris collection.

Original Harris Name	Harris Number	MCZ Number	Present Name
<i>Aegeria caudata</i>	87	26354	<i>Alcathoe caudata</i> (Harris)
<i>Trochilium tibiale</i>	387	26355	<i>Sesia tibialis</i> (Harris)
<i>Trochilium marginatum</i>	388	26356	<i>Pennisetia marginata</i> (Harris)
<i>Aegeria tricincta</i>	322	26357	<i>Paranthrene tabaniformis</i> (Rottemburg)
<i>Aegeria polistiformis</i>	791	26358	<i>Vitacea polistiformis</i> (Harris)
<i>Trochilium denudatum</i>	311	26359	<i>Sesia asilipennis</i> (Boisduval)
<i>Aegeria syringae</i>	464	26360	<i>Podosesia syringae</i> (Harris)
<i>Aegeria fulvipes</i>	17	26361	<i>Synanthedon fulvipes</i> (Harris)
<i>Aegeria scitula</i>	333	26362	<i>Synanthedon scitula</i> (Harris)
<i>Aegeria pyri</i>	702	26363	<i>Synanthedon pyri</i> (Harris)
<i>Aegeria cucurbitae</i>	249	33258	<i>Melittia cucurbitae</i> (Harris)

Podosesia syringae (Harris) (Purrington and Nielsen, 1977), the serendipitous discovery of the Harris types has given us an opportunity to verify that *aureocincta* does not refer to *syringae*: that it is not a junior synonym of *syringae*. Until now, without reference to the types, it has seemed possible that Harris had specimens of *aureocincta* before him, instead of *syringae*.

This is not an unwarranted concern, because Engelhardt's monograph on the Sesiidae (1946) illustrates for *P. syringae* (Harris) a *Podosesia* saccus tip of the male genital armature clearly assignable to *aureocincta*, rather than to *syringae* (Purrington and Nielsen, 1979). Difficulties of recognition of this sort can obviously attend separation of sibling species and no doubt are enhanced by the operation of selection pressures that maintain mimicry in the Sesiidae. The kinds of phenological, pheromonal, and behavioral nuances that maintain genetic distinctness between pairs of clearwing cryptic siblings are not reflected by characters that are preserved in museum specimens (Heppner and Duckworth, 1981). Neither our separation of *P. aureocincta* from *syringae* nor the subsequent separation of *Paranthrene pellucida* Greenfield and Karandinos from *Paranthrene simulans* (Grote) could be made using standard characters of the male genital armature (Greenfield and Karandinos, 1979), although with

intensive study such features were eventually located in the case of *Podosesia aureocincta* (Purrington and Nielsen, 1979).

Nomenclatural stability in *Podosesia* has also been jeopardized by Naumann (1971) who, although he did not claim the types were missing, only that he did not examine them, nevertheless established Brooklyn, New York as type locality for *syringae*. He noted a female type was in the "Boston Society of Natural History" (sic), possibly to agree with Engelhardt (1946), who made the same inaccurate contentions. Apparently neither author was aware of the collection's transfer to Harvard in 1941.

It is unclear to us why Naumann felt compelled to establish a type locality for *syringae*, unless he was in fact convinced the types were missing. He published original drawings of probable *syringae* genitalia taken from specimens obtained from two European museums, including material collected in Brooklyn, New York. Neither Duckworth and Eichlin (1977) nor Hodges and Miller (in litt.) follow Naumann in his Brooklyn type locality designation for *syringae*; they indicate Massachusetts is the likely collection site (Harris gave no locality data for his syntypic *Podosesia* series).

To verify the Harris *Podosesia* types as *syringae* auctorum, we borrowed the syntypic series of two males and one female from the MCZ. Genital slides of both males



Fig. 1. Genitalia of *Podosesia* males (aedeagi removed). Top, *syringae* lectotype. Bottom, *aureocincta*, Wooster, Ohio, 12 September 1976, col. F. F. Purrington.

were made, and in accordance with standard practice we have selected, labeled, and designated as follows one of these males as lectotype. The pinned lectotype male imago has 4 labels: 1) 464 ♂, 2) MCZ No. 26360, 3) *Aegeria syringae* ♂ type, genitalia slide #A, MCZ No. 26360, E. H. Metzler, 1 May 1986, 4) lectotype, F. F. Purrington, 14 October 1986. The lectotype genitalia slide is a standard 1" by 3" glass microscope slide bearing 2 labels: 1) *Aegeria syringae* ♂ type, 464 ♂, MCZ type No. 26360, slide #A, E. H. Metzler, 1 May 1986, 2) lectotype, F. F. Purrington, 14 October 1986.

We have designated the second male syntype as paralectotype. The pinned paralectotype male imago bears the same label data as the pinned lectotype except the notation that its genitalia are on slide #B. That genitalia slide bears 2 labels: 1) *Aegeria syringae* ♂ type, 464 ♂, MCZ type No. 26360, slide #B, E. H. Metzler, 1 May 1986, 2) paralectotype, F. F. Purrington, 14 October 1986.

The single female is also designated as paralectotype, with label data as follows: 464 ♀, MCZ No. 26360, paralectotype, F. F. Purrington, 14 October 1986.

All three types and the genitalia slides prepared by us are in the MCZ, Harvard University.

Both lectotype and paralectotype *Podosesia* males clearly show the genital character state that we have determined is uniquely associated with *syringae* (Harris). The tip of the saccus of *syringae* is truncate or somewhat knobbed (Fig. 1-top), whereas in its cryptic sibling *aureocincta* the tip of the saccus (Fig. 1-bottom) is strongly bifurcated, the corners elaborated into prongs.

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